CLAIMS

1. An image processing apparatus for correcting a gradation of an input image data, comprising:

a first generating section for generating a first look up table using the input image data;

a second generating section for generating a second look up table based on the first look up table and human visual characteristics;

a combining section for generating a third look up table by combining the first and second look up tables according to a predetermined combining ratio; and

a transforming section for transforming the image data using the third look up table.

2. An image processing apparatus as claimed in claim 1, wherein the first generating section generates the first look up table based on a histogram of intensity levels of the image data.

3. An image processing apparatus as claimed in claim 1, wherein the second generating section generates the second look up table using a predetermined logarithm curve as the human visual characteristics.

4. An image processing apparatus as claimed in claim 1, further comprising an input section for inputting the combining ratio.

5. An image processing apparatus as claimed in claim 1, further comprising a setting section for setting the combining ratio based on the first and second look up tables.

6. An image processing apparatus as claimed in claim 1, wherein the transforming section transform a dynamic range of the intensity levels of the image data using the third look up table.

7. An image processing method for correcting a gradation of an input image data, the method comprising the steps of:

generating a first look up table using the input image data;

generating a second look up table based on the first look up table and human visual characteristics;

generating a third look up table by combining the first and second look up tables according to a predetermined combining ratio; and

transforming the image data using the third look up table.

8. An image processing method as claimed in claim 7, wherein the first look up table is generated based on a histogram of intensity levels of the image data.

9. An image processing method as claimed in claim 7, wherein the second look up table is generated using a predetermined logarithm curve as the human visual characteristics.

10. An image processing as claimed in claim 7, the method of further comprising the step of inputting the combining ratio.

11. An image processing method as claimed in claim 7, the method further comprising the step of setting the combining ratio based on the first and second look up tables.

12. An image processing method as claimed in claim 7, wherein the transforming step transforms a dynamic range of intensity levels of the image data using the third look up table.

13. A storage medium for storing a computer readable program for image processing to correct a gradation of input image data, the program comprising:

a first generating step of generating a first look up table using the input image data;

a second generating step of generating a second look up table based on the first look up table and human visual characteristics;

a combining step of generating a third look up table by combining the first and second look up tables according to a predetermined combining ratio; and

a transforming step of transforming the image data using the third look up table.

14. A storage medium as claimed in claim 13, wherein the first generating step generates the first look up table based on a histogram of intensity levels of the image data.

15. A storage medium according as claimed in claim 13, wherein the second generating step generates the second look up table using a predetermined logarithm curve as the human visual characteristics.

16. A storage medium as claimed in claim 13, further comprising an input step of inputting the combining ratio.

17. A storage medium as claimed in claim 13, further comprising a setting step of setting the combining ratio based on the first and second look up tables.

18. A storage medium as claimed in claim 13, wherein the transforming step transforms a dynamic range of the intensity levels of the image data using the third look up table.

19. An image processing apparatus for correcting a gradation of input image data, comprising:

a first generating section for generating a first look up table using the input image data;

a second generating section for generating a second look up table based on the first look up table and human visual characteristics; and

a transforming section for transforming the image data using the second look up table.

20. An image processing apparatus as claimed in claim 19, wherein the first generating section generates the first look up table based on a histogram of intensity levels of the image data.

21. An image processing apparatus as claimed in claim 19, wherein the second generating section generates the second look up table using a predetermined logarithm curve as the human visual characteristics.

22. An image processing apparatus as claimed in claim 19, wherein the transforming section transform a dynamic range of the intensity levels of the image data using the second look up table.

23. An image processing method of an image processing apparatus for correcting a gradation of input image data, the method comprising the steps of:

generating a first look up table using the input image data;

generating a second look up table based on the first look up table and human visual characteristics; and

transforming the image data using the second look up table.

24. An image processing method as claimed in claim 23, wherein the first generating step generates the first look up table based on a histogram of intensity levels of the image data.

25. An image processing method as claimed in claim 23, wherein the second generating step generates the second look up table using a predetermined logarithm curve as the human visual characteristics.

26. An image processing method as claimed in claim 23, wherein the transforming step transforms a dynamic range of the intensity levels of the image data using the second look up table.

27. A storage medium for storing a computer readable program for image processing to correct a gradation of input image data, the program comprising:

a first generating step of generating a first look up table using the input image data;

a second generating step of generating a second look up table based on the first look up table and human visual characteristics; and

a transforming step of transforming the image data using the second look up table.

28. A storage medium as claimed in claim 27, wherein the first generating step generates the first look up table based on a histogram of intensity levels of the image data.

29. A storage medium as claimed in claim 27, wherein the second generating step generates the second look up table using a predetermined logarithm curve as the human visual characteristics.

30. A storage medium as claimed in claim 27, wherein the transforming step transforms a dynamic range of the intensity levels of the image data using the second look up table.